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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/806,046	05/21/2002	Johan Smets	CM2108/DQ	4883

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THE PROCTER & GAMBLE COMPANY
INTELLECTUAL PROPERTY DIVISION
WINTON HILL TECHNICAL CENTER - BOX 161
6110 CENTER HILL AVENUE
CINCINNATI, OH 45224

EXAMINER	
PROUTY, REBECCA E	

ART UNIT	PAPER NUMBER
1652	

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/806,046	SMETS ET AL.	
	Examiner	Art Unit	
	Rebecca E. Prouty	1652	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 January 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-9 and 11-23* is/are pending in the application.

4a) Of the above claim(s) *4-8,15 and 20* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,9,11-14,16-19 and 21-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claims 3 and 10 have been canceled. Claims 1, 2, 4-9, 11-15 and newly presented claims 16-23 are still at issue and are present for examination.

Applicants' arguments filed on 1/18/05, have been fully considered and are deemed to be persuasive to overcome some of the rejections previously applied. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn.

Applicants request the rejoinder of Claim 15 arguing that as this claim depended from Claim 1 it should have been examined. However it is noted that claim 15 recites methods of providing sanitization and/or insect control which are not methods associated with the use of the elected species of chemical component (i.e., bleaching agents). Applicants were specifically notified in the requirement for election that the method of use claims would be examined to the extent that they recite uses associated the elected chemical component. As claim 15 does not include any method commonly associated with bleaching agents it was withdrawn from consideration. New claim 20 also recites methods of providing sanitization and/or insect control and is withdrawn herein as well.

Claims 4-8, 15 and 20 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a

nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 7/6/04.

Claims 16 and 17 are objected to because of the following informalities: Claim 16 recites heterofunctional polyethylene glycol derivatives twice within the recited Markush group and Claim 17 recites PEG-$(NPC)_2$ twice within the recited Markush group. Furthermore, claim 17 recites the abbreviations t-BOC, NPC, NHS, and FMOC without defining what these abbreviations mean. Appropriate correction is required.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 is confusing in the recitation of "bleaching agent is linked to said amino acid sequence comprising a cellulose binding domain … via a weak bond" because as amended the bleaching agent is linked to the CBD through a polyethylene glycol linker and thus cannot be directly linked to the CBD.

Claims 18 and 19 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for methods of using the bleaching agent-PEG-CBD conjugate of Claim 1 for stain removal, whiteness maintenance, dye transfer

inhibition and/or maintaining color appearance, does not reasonably provide enablement for methods of using the bleaching agent-PEG-CBD conjugate of Claim 1 for soil removal, prevention of wrinkling, prevention of bobbling, prevention of shrinkage, fabric softening, maintaining freshness, or for preventing fabric wear. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

These claims recite the use of the bleaching agent-PEG-CBD conjugate of Claim 1 for a variety of fabric care treatments. However, bleaching agents are not known to be useful for soil removal, prevention of wrinkling, prevention of bobbling, prevention of shrinkage, fabric softening, maintaining freshness, or for preventing fabric wear and the conjugate of Claim 1 does not comprise an agent known to have such uses. The specification fails to teach bleaching agents that have these utilities such that one of skill in the art could construct a conjugate as claimed useful in these methods. As such it would require undue experimentation to use the conjugates of Claims 1 for these uses.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 2, 9, 11-14, 16-19, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jones (WO 98/00500) in view of van der Osten et al. (WO 97/28243) and Zalipsky et al.

Jones discloses a protein deposition aid comprising a binding domain of an enzyme having high affinity for fibers, which is disclosed as preferably a CBD (see page 4) linked to an benefit agent having use within detergent or fabric care compositions (see particularly pages 2-4). Jones further teaches detergent and fabric care compositions including the CBD/benefit agent hybrids and the use of the hybrids and compositions for fabric care. Jones further teach that the CBD should be linked to the benefit agent through a linking agent

which is covalently bound to both the CBD and the benefit agent (see page 7). Jones do not teach that the CBD is specifically that of the 43kDa endoglucanase of *Humicola insolens* DSM1800 or that the linking agent is specifically a polyethylene glycol derivative.

Van der Osten et al. disclose fusion proteins of a CBD to an enzyme having use within detergent or fabric care compositions wherein the addition of the CBD increases the affinity of the enzyme for binding to a cellulosic fabric or textile (see particularly pages 1-2). Van der Osten et al. further teach detergent and fabric care compositions including the CBD/detergent enzyme fusions and the use of the fusion proteins and compositions for fabric care. These compositions can be formulated as laundry additive compositions and compositions suitable for use in the pretreatment of stained fabrics. (see page 48). The specific CBDs of the fusions of Von der Osten et al. include the CBD of the 43kDa endoglucanase of *Humicola insolens* DSM1800. The CBD of the 43kDa endoglucanase of *Humicola insolens* DSM1800 is disclosed in the instant specification to have the claimed binding constant for crystalline cellulose.

Zalipsky et al. teach the use of bifunctional PEGs as linkers between proteins and a chemical compound of interest.

Zalipsky et al. teach that PEGs have the advantages of being non-toxic, highly soluble and unlikely to interfere with the enzymatic activities and conformations of polypeptides.

Therefore it would have been obvious to one of ordinary skill in the art to use the CBD of the 43kDa endoglucanase of *Humicola insolens* DSM1800 as the CBD and a PEG derivative as taught by Zalipsky in constructing a CBD/benefit agent hybrid as taught by Jones as van der Osten teach the usefulness of the CBD of the 43kDa endoglucanase of *Humicola insolens* DSM1800 for increasing the affinity of a compound bound thereto to a cellulosic fabric and Zalipsky et al. teach that bifunctional PEGs are particularly useful for the conjugation of proteins to a chemical compound of interest. Furthermore, it would have been obvious to one of skill in the art to use any of the well known bifunctional PEG derivatives such as those recited in Claim 17 and methods of conjugation to link the PEGs to the CBD and the benefit agent.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rebecca E. Prouty whose telephone number is 571-272-0937. The examiner can normally be reached on Tuesday-Friday from 8 AM to 5 PM. The examiner can also be reached on alternate Mondays

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapura Achutamurthy, can be reached at (571) 272-0928. The fax phone number for this Group is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

REBECCA E. PROUTY
PRIMARY EXAMINER
GROUP 1600